

Appl. No. : 10/658,114  
Filed : September 8, 2003

### REMARKS

Claims 1-26 are pending in this application. New Claims 37-46 have been added. Support for the new claims is found in the specification and claims as filed.

#### Response to Restriction Requirement

A Restriction Requirement has been imposed in this application. In connection therewith, it is asserted that the application claims the following inventions: Claims 1-26, drawn to a product, classified in class 136, subclass 243 (Group I); and Claims 27-36, drawn to a method, classified in class 438, subclass 48 (Group II). Applicants hereby elect, without traverse, the invention of Group I, including Claims 1-26, drawn to a product, and cancel without prejudice Claims 27-36 as drawn to a non-elected invention.

#### Claim Rejection - 35 U.S.C. § 102(b)

Claims 1, 3-23, and 26 have been rejected under 35 U.S.C. §102(e) as anticipated by U.S. 6,683,367 (Stalmans et al.). "A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference." *See, e.g., In re Paulsen*, 31 U.S.P.Q.2d 1671 (Fed. Cir. 1994). Stalmans et al. does not disclose every element of Applicants' claims, and therefore cannot be considered as an anticipating reference under 35 U.S.C. § 102(b).

Pending independent Claim 1 recites a photovoltaic device comprising "a first layer comprising a first semiconductor material comprising a first conductivity type; a second layer comprising a second semiconductor material of a second opposite conductivity type, wherein the second conductivity type is opposite the first conductivity type; and a third layer comprising a third semiconductor material, wherein the third layer is situated between the first layer and the second layer, wherein the third layer comprises a porous layer, wherein the *third layer comprises a translucent layer*, and wherein the third layer comprises a diffusion barrier." (emphasis added). Layer 2 or 14 of Stalmans et al. is not a translucent layer – the layer can either have only light reflecting properties, or both light reflecting and light diffusing properties (Stalmans et al., col. 4, lines 54-56). Stalmans et al. states "[t]his porous, preferably silicon, layer has both light reflecting and light diffusing properties thereby giving rise to light confinement in the thin film."

(Id., col. 2, lines 36-39). Thus Stalmans et al. does not disclose a third layer comprising a translucent layer, and therefore cannot anticipate Claims 1, 3-23, and 26. Accordingly, Applicants respectfully request that the rejection be withdrawn.

**Claim Rejection - 35 U.S.C. §103(a)**

Claims 2, 24, and 25 have been rejected under 35 U.S.C. §103(a) as obvious over Stalmans et al. in view of U.S. 5,757,024 (Fathauer et al.). To articulate a *prima facie* case of obviousness under 35 U.S.C. §103(a), the PTO must, *inter alia*, cite prior art that teaches or suggests all the claimed limitations. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974). As discussed above, Stalmans et al. does not disclose a third layer comprising a translucent layer. Fathauer et al. discloses an optically transparent top contact 68, but this contact is not porous and is not situated between “a first layer comprising a first semiconductor material comprising a first conductivity type” and “a second layer comprising a second semiconductor material of a second opposite conductivity type, wherein the second conductivity type is opposite the first conductivity type.” Since Fathauer et al. includes no disclosure overcoming the deficiencies of Stalmans et al., Stalmans et al. in combination with Fathauer et al. cannot render obvious Claims 2, 24, and 25. Accordingly, Applicants respectfully request that the rejection of Claims 2, 24, and 25 be withdrawn.

**Claim Rejection - 35 U.S.C. § 102(b)**

Claims 1, 3, and 4-23 have been rejected under 35 U.S.C. §102(b) as anticipated by U.S. 5,331,180 (Yamada et al.). “A rejection for anticipation under section 102 requires that each and every limitation of the claimed invention be disclosed in a single prior art reference.” *See, e.g., In re Paulsen*, 31 U.S.P.Q.2d 1671 (Fed. Cir. 1994). Yamada et al. does not disclose every element of Applicants’ claims, and therefore cannot be considered as an anticipating reference under 35 U.S.C. § 102(b).

Pending independent Claim 1 recites a photovoltaic device comprising “a first layer comprising a first semiconductor material comprising a first conductivity type; a second layer comprising a second semiconductor material of a second opposite conductivity type, wherein the second conductivity type is opposite the first conductivity type; and a third layer comprising a

third semiconductor material, wherein the third layer is situated between the first layer and the second layer, wherein the third layer comprises a porous layer, wherein the *third layer comprises a translucent layer*, and wherein the third layer comprises a diffusion barrier.” (emphasis added) Layer 22 of Yamada et al. is not a translucent layer – the layer is a light emitting layer (Stalmans et al., col. 4, lines 54-56). Yamada et al. discloses conductive films that are transparent relative to light radiated from the light emitting device (porous semiconductor layer 22), but these conductive films are formed on the surface of the porous semiconductor layer and are not a part of the porous semiconductor layer. Thus Yamada et al. does not disclose a third layer comprising a translucent layer, and therefore cannot anticipate Claims 1, 3, and 4-23. Accordingly, Applicants respectfully request that the rejection be withdrawn.

**Claim Rejection - 35 U.S.C. §103(a)**

Claims 2, 24, and 25 have been rejected under 35 U.S.C. §103(a) as obvious over Yamada et al. in view of Fathauer et al. To articulate a *prima facie* case of obviousness under 35 U.S.C. §103(a), the PTO must, *inter alia*, cite prior art that teaches or suggests all the claimed limitations. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974). As discussed above, neither Yamada et al. nor Fathauer et al. discloses a third layer comprising a translucent layer. Accordingly, Yamada et al. in combination with Fathauer et al. cannot render obvious Claims 2, 24, and 25, and Applicants respectfully request that the rejection be withdrawn.

**Claim Rejection - 35 U.S.C. §103(a)**

Claim 26 has been rejected under 35 U.S.C. §103(a) as obvious over Yamada et al. in view of Stalmans et al. To articulate a *prima facie* case of obviousness under 35 U.S.C. §103(a), the PTO must, *inter alia*, cite prior art that teaches or suggests all the claimed limitations. *In re Royka*, 490 F.2d 981 (C.C.P.A. 1974). As discussed above, neither Yamada et al. nor Stalmans et al. discloses a third layer comprising a translucent layer. Accordingly, Yamada et al. in combination with Stalmans et al. cannot render obvious Claim 26, and Applicants respectfully request that the rejection be withdrawn.

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**Conclusion**

In view of the foregoing amendments and remarks, it is respectfully submitted that the present application is in condition for allowance. Should the Examiner have any remaining concerns that might prevent the prompt allowance of the application, the Examiner is respectfully invited to contact the undersigned at the telephone number below.

Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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Dated: 3/27/07

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AMEND

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